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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,460	08/31/2006	Steven M. Palay	940131.413USPC	5763

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EXAMINER	
SPAR, ILANA L	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,460	PALAY ET AL.	
	Examiner	Art Unit	
	ILANA SPAR	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22,51,53-60 and 62-67* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22,51,53-60 and 62-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The following Office Action is responsive to the amendments and remarks received on June 21, 2010.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 22, 51, 56, 57, 59, 60, 65, and 66 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamanami et al. (US Patent No. 4,902,858).

With reference to claim 22, Yamanami et al. teaches a surface and cordless transducer system, the system comprising:

a surface (12) including a position resolving grid (see column 3, lines 40-55), and

a transducer (2) including a power receiving circuit, wherein the power receiving circuit responds to an electromagnetic field radiating from the surface and sends a transmit signal, which is received by the position resolving grid and used to determine a position of the transducer relative to the surface (see column 3, lines 55-61 and column 5, lines 24-60),

wherein the surface further includes a plurality of power transmission coils (13 etc), which are distinct from the position resolving grid, for radiating the electromagnetic field, the plurality of power transmission coils being overlapping resonant power

transmission coils (see column 4, lines 2-10 and lines 27-38 – Yamanami et al. teaches a plurality of ways to arrange the antenna, including the antenna including a plurality of overlapping coils); and

wherein the position resolving grid and the plurality of overlapping resonant power transmission coils are arranged coextensively on top of one another to form the surface (see column 4, lines 11-20 and lines 27-38 – Yamanami et al. teaches that the antenna can be arranged in various ways in relation to the position resolving grid, with one arrangement having the coils arranged at the periphery of the grid, such that the total area encompassed by both the coils and the grid is coextensive).

With reference to claim 51, Yamanami et al. teaches all that is required with reference to claim 22, and further teaches that the plurality of overlapping resonant power transmission coils comprise transmission coils of the resonant inductive type (see column 5, lines 61-66).

With reference to claim 56, Yamanami et al. teaches all that is required with reference to claim 22, and further teaches that the transducer is configured to perform a predefined modulation on a transmit signal to be sent to the position resolving grid (see column 6, lines 55-58).

With reference to claim 57, Yamanami et al. teaches all that is required with reference to claim 56, and further teaches that the predefined modulation comprises a time keying modulation or an on/off modulation (see column 6, lines 59-67).

With reference to claim 59, Yamanami et al. teaches a method for determining a position of a transducer relative to a surface, wherein the surface includes a position

resolving grid and the transducer includes a power receiving circuit, the method comprising:

causing the power receiving circuit to respond to an electromagnetic field radiating from the surface and to send a transmit signal (see column 3, lines55-61 and column 5, lines 24-60), and

causing the position resolving grid to receive the transmit signal from the transducer to thereby determine a position of the transducer relative to the surface (see column 3, lines 55-61),

wherein the surface further includes a plurality of power transmission coils, which are distinct from the position resolving grid, the plurality of power transmission coils being overlapping resonant power transmission coils (see column 4, lines 2-10 and lines 27-38 – Yamanami et al. teaches a plurality of ways to arrange the antenna, including the antenna including a plurality of overlapping coils), and wherein the position resolving grid and the plurality of overlapping resonant power transmission coils are arranged coextensively on top of one another to form the surface (see column 4, lines 11-20 and lines 27-38 – Yamanami et al. teaches that the antenna can be arranged in various ways in relation to the position resolving grid, with one arrangement having the coils arranged at the periphery of the grid, such that the total area encompassed by both the coils and the grid is coextensive), and the method further comprises:

causing the plurality of overlapping resonant power transmission coils to radiate the electromagnetic field (see column 5, lines 61-66).

With reference to claim 60, Yamanami et al. teaches all that is required with reference to claim 59, and further teaches that the plurality of overlapping resonant power transmission coils comprise transmission coils of the resonant inductive type (see column 5, lines 61-66).

With reference to claim 65, Yamanami et al. teaches all that is required with reference to claim 59, and further teaches causing the transducer to perform a predefined modulation on a transmit signal to be sent to the position resolving grid (see column 6, lines 55-58).

With reference to claim 66, Yamanami et al. teaches all that is required with reference to claim 65, and further teaches that the predefined modulation comprises a time keying modulation or an on/off modulation (see column 6, lines 59-67).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 53 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanami et al. in view of Fukuzaki et al. (US Patent No. 5,600,105), further in view of Ronkka et al. (US Patent No. 6,002,387).

With reference to claim 53, Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach that the transducer generates and stores DC operating power.

Fukuzaki et al. teaches that the transducer is configured to generate DC operating power for operating the transducer based on a signal from the power receiving circuit in response to the electromagnetic field radiating from the plurality of overlapping resonant power transmission coils arranged on the surface (see column 6, lines 45-49 and column 15, lines 26-29).

It would have been obvious to one of ordinary skill in the art at the time of invention that, as taught by Fukuzaki et al., it is desirable to generate power within the transducer using the signal received from the power transmission coil of the surface, such that the transducer can function wirelessly and without having to include an independent power source, thus simplifying construction and operation of the transducer device.

Yamanami et al. and Fukuzaki et al. fail to teach storing the generated DC voltage.

Ronkka et al. teaches storing the generated DC voltage (see column 2, lines 17-19).

It would have been obvious to one of ordinary skill in the art at the time of invention to store the DC voltage such that the transducer is able to provide power even when the surface is not transmitting a signal, i.e. when the surface is in receiving mode rather than transmitting mode.

With reference to claim 62, Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach that the transducer generates and stores DC operating power.

Fukuzaki et al. teaches that the transducer generates DC operating power for operating the transducer based on a signal from the power receiving circuit in response to the electromagnetic field radiating from the plurality of overlapping resonant power transmission coils (see column 6, lines 45-49 and column 15, lines 26-29).

It would have been obvious to one of ordinary skill in the art at the time of invention that, as taught by Fukuzaki et al., it is desirable to generate power within the transducer using the signal received from the power transmission coil of the surface, such that the transducer can function wirelessly and without having to include an independent power source, thus simplifying construction and operation of the transducer device.

Yamanami et al. and Fukuzaki et al. fail to teach storing the generated DC voltage.

Ronkka et al. teaches storing the generated DC voltage (see column 2, lines 17-19).

It would have been obvious to one of ordinary skill in the art at the time of invention to store the DC voltage such that the transducer is able to provide power even when the surface is not transmitting a signal, i.e. when the surface is in receiving mode rather than transmitting mode.

7. Claims 54, 55, 63, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanami et al. in view of Yamanami et al. (US Patent No. 5,028,745, henceforth *Yamanami 2*).

With reference to claim 54, Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach that each of the plurality of overlapping resonant power transmission coils is tuned to a different frequency when inactive.

Yamanami 2 teaches that each of the plurality of overlapping resonant power transmission coils, when inactive, is configured to be tuned to a frequency that is different from its operating frequency so as to minimize an electromagnetic interference between the resonant power transmission coil and the position resolving grid (see column 5, lines 39-43).

It would have been obvious to one of ordinary skill in the art at the time of invention to change the frequency of the transmission coil such that the position resolving grid does not detect a signal from the transducer in error, by detecting the signal from the transmission coils.

With reference to claim 55, Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach that each of the plurality of overlapping resonant power transmission coils is configured to be squelched.

Yamanami 2 teaches that each of the plurality of overlapping resonant power transmission coils is configured to be squelched when the surface is receiving a transmit signal from the transducer (see column 5, lines 39-43).

It would have been obvious to one of ordinary skill in the art at the time of invention to prevent the transmission coils from transmitting such that the position resolving grid does not detect a signal from the transducer in error, by detecting the signal from the transmission coil.

With reference to claim 63, Yamanami et al. teaches all that is required with reference to claim 59, but fails to teach that each of the plurality of overlapping resonant power transmission coils is tuned to a different frequency when inactive.

Yamanami 2 teaches tuning each of the plurality of overlapping resonant power transmission coils, when inactive, to a frequency that is different from its operating frequency so as to minimize an electromagnetic interference between the resonant power transmission coils and the position resolving grid (see column 5, lines 39-43).

It would have been obvious to one of ordinary skill in the art at the time of invention to change the frequency of the transmission coils such that the position resolving grid does not detect a signal from the transducer in error, by detecting the signal from the transmission coil.

With reference to claim 64, Yamanami et al. teaches all that is required with reference to claim 59, but fails to teach that each of the plurality of overlapping resonant power transmission coils is configured to be squelched.

Yamanami 2 teaches squelching the plurality of overlapping resonant power transmission coils when the surface is receiving a transmit signal from the transducer (see column 5, lines 39-43).

It would have been obvious to one of ordinary skill in the art at the time of invention to prevent the transmission coils from transmitting such that the position resolving grid does not detect a signal from the transducer in error, by detecting the signal from the transmission coils.

8. Claims 58 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanami et al. in view of Fukuzaki et al.

With reference to claim 58, Yamanami et al. teaches all that is required with reference to claim 22, but fails to teach that the transducer includes a low current source that is configured to provide a constant transmit signal level.

Fukuzaki et al. teaches that the transducer includes a low current source that is configured to provide a constant transmit signal level (see column 8, lines 21-26 and 47-53).

It would have been obvious to one of ordinary skill in the art at the time of invention for the transducer to generate and transmit a constant signal to inform the position resolving grid of the location of the transducer at all times.

With reference to claim 67, Yamanami et al. teaches all that is required with reference to claim 59, but fails to teach that the transducer includes a low current source that is configured to provide a constant transmit signal level.

Fukuzaki et al. teaches that the transducer includes a low current source that is configured to provide a constant transmit signal level (see column 8, lines 21-26 and 47-53).

It would have been obvious to one of ordinary skill in the art at the time of invention for the transducer to generate and transmit a constant signal to inform the position resolving grid of the location of the transducer at all times.

Response to Arguments

9. Applicant's arguments with respect to claims 22, 51, 53-60, and 62-67 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ILANA SPAR whose telephone number is (571)270-7537. The examiner can normally be reached on Monday-Thursday 8:00-4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571)272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/
Supervisory Patent Examiner, Art Unit 2629

ILS